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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/077,416	02/15/2002	William D. Abraham	3144R	3484

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THE LUBRIZOL CORPORATION  
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EXAMINER

MCAVOY, ELLEN M

ART UNIT	PAPER NUMBER
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1764

DATE MAILED: 06/05/2003

7

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/077,416

Applicant(s)

ABRAHAM ET AL.

Examiner

Ellen M McAvoy

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 07 April 2003.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-23 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-15 and 17-23 is/are rejected.
- 7) ☒ Claim(s) 16 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)                      4) ☐ Interview Summary (PTO-413) Paper No(s) \_\_\_\_\_
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)                      5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 4,5                      6) ☐ Other \_\_\_\_\_

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-15 and 17-23 are still rejected under 35 U.S.C. 103(a) as being unpatentable over Nalesnik et al (6,103,674) in combination with Horodysky (4,692,257) or Baranski et al (5,698,499).

Applicants' arguments filed 7 April 2002 have been fully considered but they are not persuasive. As set forth in the previous office action, Nalesnik et al ["Nalesnik"] disclose a lubricating oil additive which imparts friction modification and beneficial antiwear, extreme pressure, and oxidation stability properties to an oil of lubricating viscosity which comprises the reaction product of: (a) an unsaturated or saturated ester or acid and (b) an aliphatic diamine, which is further reacted with (c) carbon disulfide, and then (d) a molybdenum compound to form the final complex product. See column 4, lines 30-52. The additives are useful in a variety of lubricating oil basestocks such as natural and synthetic oils where they are present in amounts ranging from 0.05 to 30 weight percent. See column 13, lines 31-56. The examiner maintains the position that the oil compositions containing the molybdenum complex of Nalesnik meet the limitations of components (A) and (B) of the claims. Applicants' invention differs by further adding a boron-containing compound (C) and, optionally, a phosphorus containing compound (D) to the composition. However, Nalesnik allows for the addition of conventional lubricant

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additives to the composition in column 8, lines 29-41, and includes compounds such as organo borate antiwear agents and various phosphorus compounds. See column 10, lines 53 et seq. Zinc dihydrocarbyl dithiophosphates are specifically set forth in column 12, lines 32-43, and clearly meets the limitation of optional component (D) of applicants' claims. Horodysky and Baranski et al ["Baranski"] are added to show specific organo borate compounds as additives to lubricating oil compositions which meet the limitations of the various (C) components of applicants' claims, as amended. Horodysky discloses multifunctional additives for lubricant compositions made by reacting a hydrocarbyl vicinal diol with boric acid or trialkyl borate. The borated products have the structures set forth in column 5, lines 5-20, and may be added to lubricant compositions in an amount of from 0.1% to about 10% by weight. The examiner maintains the position that the borated products of Horodysky meet the limitation of component (C) of the claims when it comprises a borated ester of formula (C-I-2a) as set forth in dependent claim 15. Baranski discloses phenolic borates having the formula set forth in the abstract as antiwear and friction modifying additives to lubricating oil compositions. The additive clearly meets the limitation of compound (C) of the claims when it comprises component (C-I-1a) as set forth in dependent claim 14. Thus, the examiner maintains the position that all of the components of applicants claims are known as lubricating oil additives and that the motivation relied on by the examiner to combine the references is the teaching in column 10, lines 53-55, of Nalesnik allowing for the addition of organo borate antiwear additives to the composition.

Applicants argue that Nalesnik does not identify any specific organo borates that may be used, and applicants argue that they have discovered that not all organo borates provide the

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solution to the problem that they sought to overcome. Applicants point to the results presented in Table 1 wherein when tri-n-butyl borate was used as the boron-containing compound, and argue that significantly improved results were obtained in GF-3/GF-4 Sequence VIII versus when a borated polyisobutene substituted succinimide, a common borate additive, was used as the boron-containing compound. The examiner agrees that improved results have been noted; however, the claims are not limited to tri-alkyl borates as the boron-containing compound. The examiner maintains the position that "organo borates" in Nalesnik provides sufficient motivation to combine the references.

*Allowable Subject Matter*

Claim 16, which limits the boron-containing compound to tri-n-butyl borate, is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The rejection under 35 USC 103(a) as being unpatentable over deVries et al (4,285,822) and (4,265,773) in combination with Davis, Horodysky, and Baranski is withdrawn in view of applicants amendments and arguments. Specifically, the deVries references do not teach the addition of boron-containing compounds to the composition

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a)

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A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ellen M McAvoy whose telephone number is (703) 308-2510. The examiner can normally be reached on M-F (7:30-5:00) with alt. Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Glenn Caldarola can be reached on (703) 308-6824. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9310 for regular communications and (703) 872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.

Ellen M McAvoy  
Primary Examiner  
Art Unit 1764

EMcAvoy  
June 4, 2003